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(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOSCH, Johannes, W., D.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **DERKS, Wilhelmus, J., T.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

**KAMPHUIS, Antonius, H., J.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **KAMPSCHREUR, Thomas, M.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **STOKKERMANS, Joep** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **WETZELS, Leon** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

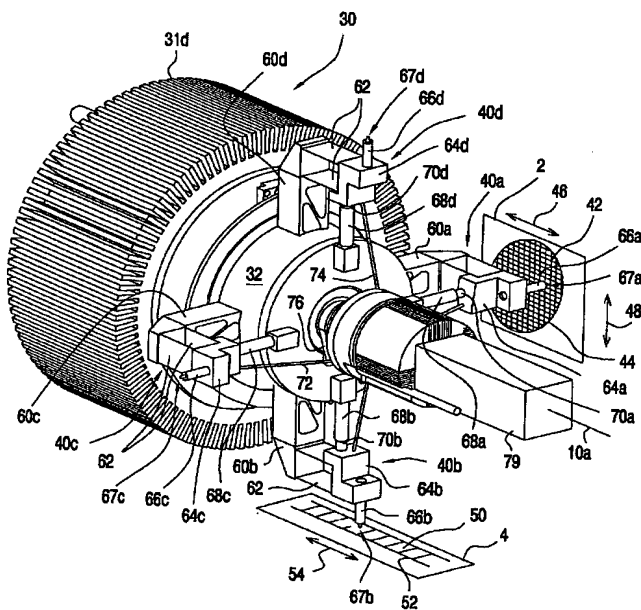
(74) Agent: **GROENENDAAL, Antonius, W., M.**; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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(54) Title: CHIP TRANSFER METHOD AND APPARATUS



(57) Abstract: In a chip transferring apparatus a wafer (44) and a lead frame (50) are positioned. A first chip (42) is picked up from the wafer (44) by a transfer head (14; 40a-40d) in a chip pick-up position, while bonding a second chip to the lead frame (50) by another transfer head in a chip bonding position. The first chip (42) is then transferred by said one of the transfer heads from the chip pick-up position to the chip bonding position. Next, the first chip (42) is bonded on the lead frame (50) by said one of the transfer heads (14; 40a-40d) in the chip bonding position, while another one of the transfer heads picks up a third chip from the wafer (44) in the chip pick-up position. Each transfer head (14; 40a-40d) comprises a collet (66a-66d) which, through a mechanical coupling, is coupled to another collet for compensating radial forces exerted on the collet relative to said axis of rotation. Vacuum is transferred to the collet from a stationary pressure source by groove sections (106) in a transfer assembly stator (100) communicating through a gap (104) between the rotatable transfer assembly (32) and the transfer assembly stator (100) with gas ducts in the transfer head (14; 40a-40d) and the corresponding collet (66a-66d). A chip (42) is picked up from a wafer (44) by a needle mechanism (224).

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